

REMARKS

Reconsideration of the application is requested in view of the modifications above and the remarks below. Claims 1-6 and 9 are pending in the Application. Claims 1, 4 and 6 have been amended. Claims 7 and 8 have been withdrawn. Claim 9 has been added and support is found in the Specification at page 4, lines 20-27. No new matter has been added.

Specification

The Examiner alleges that:

The examples refer to example 2 from EP A 991 303. Said reference example is other than English and any comparative results in the example have been given no patentable weight. Likewise, no weight is given to the reference on page 6, lines 20-21 to the level of impurity.

However, EP A 991 303 has an equivalent – US Pat 6,391,481 (a copy of which is enclosed herewith). Thus, any comparative examples can be given patentable weight, including the reference on page 6, lines 20-21 regarding the levels of impurities. Reconsideration is requested.

Claims interpretation

The Office Action indicates that “[c]laimed ranges set forth as preferred ranges have been given no patentable weight and the claim reads on the broadest range set forth.

Claim 4 has been amended to delete “preferably from 4 to 15” and new Claim 9 has been added to depend from Claim 4. Accordingly a range has been claimed in varying scope in Claim 9. Reconsideration is requested.

Rejections under 35 USC 112

1. Claims 1-6 stand rejected under 35 USC 112, first paragraph. The rejection should be withdrawn in view of the modifications above and comments below.

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Claim 1 has been amended to include "water or a water/alcohol mixture as a solvent." Support for this amended is found in the specification at page 6, lines 8-12.

Regarding the Examiner's allegation that "[I]t is unclear where Applicants set forth a two component system" and that the "claims are silent regarding any type of solvent system (Office Action, page 4, para 6, lines 9-10 and Office Action, page 4, para 6, line 16), as discussed, the Claim 1 has been amended to include "water or a water/alcohol mixture as a solvent." Thus, Applicants' invention discloses a dispersion including polyanions and cationic 3,4-polyalkylenedioxythiophenes and water or a water/alcohol mixture as a solvent. Reconsideration is requested.

Regarding Claims 2 and 4-6, Claims 2 and 4-6 depend from Claim 1 which as discussed is believed to be allowable. Accordingly, Claims 2 and 4-6 are also believed to be allowable. Reconsideration is requested.

2. Claim 4 is rejected under 35 USC 112, first paragraph. The rejection should be withdrawn in view of the modification above and comments below.

Claim 4 has been amended to delete "optionally substituted." Thus, one skilled in the art would be able to interpret the claims in light of the specification and practice Applicants' invention. Reconsideration is requested.

Rejections under 35 USC 112, second paragraph

1. Claims 1-6 stand rejected under 35 USC 112, second paragraph as indefinite. The rejection should be withdrawn in view of the modification above and comments below.

Regarding the particle size, the Office Action indicates it is "unclear what the particle size represents, e.g. the polyanions, the cationic 3,4-polyalkylenedioxythiophenes, or a material dispersed therein" (Office Action, page 5, para 9, lines 4-9).

However, the polyanions and cationic 3,4polyalkylenedioxythiophenes form a salt-like compound and, therefore, may not be considered to be separated from each other. The percentage 90% in Claim 1 is neither a weight nor a volume percentage, but it is the percentage of the number of particles, that have a particles

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size of less than 50 nm. One skilled in the art would be able to interpret the claims and practice Applicants' invention.

Regarding Claim 3, the Office action alleges the "resistivity of the coatings is indefinite" (Office Action, page 6, line 1).

However, Applicants disclose the method of coating the dispersion and measuring of the resistivity of the coatings (Specification page 6, line 22 – page 7, line 18). In addition, coating methods for polythiophene/polyanion dispersions and the method to measure the resistivity of coatings obtained thereby are well known to one having ordinary skill in the art. Additionally, the resistivity of the coating is specified and is independent of the thickness of the coating. Thus, one skilled in the art would be able to interpret the claims in light of the specification and practice Applicants' invention.

Regarding Claims 4 and 6, Claims 4 and 6 have are believed to be allowable. In particular, Claim 4 has been amended to delete "optionally substituted" and Claim 6 has been amended to include the "weight ratio." Reconsideration is requested.

Rejections under 35 USC 102 and 35 USC 103

1. Claims 1-2 and 4-5 stand rejected under 35 USC 102(e) as anticipated by or in the alternative under 103(a) as obvious over Louwet et al. The rejection should be withdrawn in view of the modification above and comments below.

The Office Action alleges that "Louwet et al discloses aqueous dispersions of poly(3,4-ethylenedioxythiophene and polystyrene sulphonate having a mean particle size of 50 nm and Table 1 sets forth representation dispersions. Several of the examples having a 90% weight of the particles having sizes less than 58 nm" (Office Action, page 9, para 13, lines 1-6).

The Office Action further alleges that:

Applicants' claims set forth dispersions having "at least about 90%" and "a size of less than about 50 nm" or "less than about 40 nm." Since Applicants modify both the percentage and size of particles by "about," the disclosure in Louwet et al reads on the instant claims (Office Action, page 8, lines 2-5).

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Applicant' invention is directed to a dispersion including "at least 90% of the particles of the dispersion are less than 50nm."

Louwet et al discloses 90% by weight of particles that have sizes from 58 nm to 90 nm. As discussed, Applicants' invention of Claim 1 of "90% of the particles" is not a weight percentage, but it is the percentage of the number of particles, that have a particles size of less than 50 nm. Thus, Louwet et al teaches an entirely different metric by which particles size is measured – a metric based on weight. Further, Louwet et al teaches sizes from 58nm to 90 nm which does not suggest Applicants' invention including "particles of the dispersion are less than 50 nm." Also, Louwet et al does not teach or suggest the "resistivity of the coatings produced therefrom is more than 5000 Ω cm. Thus, Louwet et al does not teach or suggest Applicants' invention.

The Office Action further alleges, that:

To the extent that Louwet et al differs for the claims in particle size distribution, it would have been obvious to one skilled in the art at the time of applicants' invention to vary the degree of homogenization and/or microfluidization clearly contemplated in the Louwet et al reference (Office Action, page 8, lines 6-10).

It is well established that to establish a *prima facie* case of obviousness, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification must have had a reasonable expectation of success, as determined from the vantage point of one of ordinary skill in the art at the time the invention was made. *Amgen v. Chugai Pharmaceutical Co.* 18 USPQ 2d 1016, 1023 (Fed Cir, 1991), *cert. denied* 502 U.S. 856 (1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496, (CCPA 1970). The Office Action did not establish a *prima facie* case of obviousness.

As correctly admitted in the Office Action, the particle size is not taught or

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suggest. Furthermore, the amount of 90 % of particles of Applicants' invention is also not taught or suggest. Thus, Louwet et al does not obviate Applicants' invention. Reconsideration is requested.

2. Claims 1-6 stand rejected under 35 USC 103(a) as unpatentable over Bayer AG DE 198 41 803 as evidenced by Jonas et al and optionally in view of Krafft et al. The rejection should be withdrawn in view of the modification above and comments below.

Regarding Jonas et al, Jonas et al discloses 3,4-polyethylenedioxythiophene/polystyrene sulfonate dispersions with various weight ratios PEDT:PSS. Jonas et al. describes in col. 2, l. 7-15 that the lifetime of electroluminescent displays can be increased by using a solution or dispersion of polymeric organic conductors having a very small particle size, but the particle size disclosed in Jonas et al. is less than 1 μm , preferably 0.25 μm , which is an order of magnitude higher than 50 nm of Applicants' invention of Claims 1. Additionally, Jonas et al. describes that varying the weight ratio of PEDT:PSS can significantly reduce the occurrence of short circuits or crosstalk in electroluminescent matrix displays and teaches one having ordinary skill in the art that preference is given to solutions or dispersions leading to layers having a conductivity of less than 2 S/cm (col. 3, l. 30-40). This corresponds to a resistivity of more than 0,5 Ωcm and is four orders of magnitude smaller than 5000 Ωcm of Applicants' invention of Claim 1. In fact, Jonas et al does not teach or suggest any resistivity in the Examples. Further, Jonas et al. does not teach one having ordinary skill in the art that reducing the particle size an order of magnitude would increase the resistivity to such a high degree. Thus, Jonas et al does not obviate Applicants' invention. Reconsideration is requested.

Regarding Krafft et al, Krafft et al is completely silent about resistivity. Thus, Krafft et al. can not overcome the deficiencies of Jonas et al. Additionally, Krafft et al. is completely silent about the percentage of particles having any particle size ranging between 5 nm to 100 nm. Thus, neither Krafft et al, alone or in combination with Jonas et al does not teach or suggest Applicants' invention.

Regarding Claims 2 and 4-8 depend fro Claim 1 which as discussed is believed to be allowable. Accordingly, Claims 2 and 4-8 are also believed to be allowable.

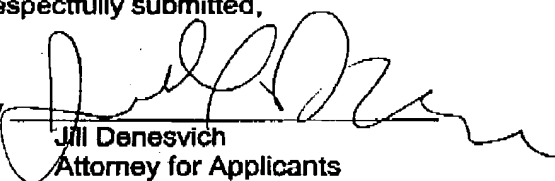
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In view of the foregoing amendments and remarks, allowance of the pending claims is earnestly requested.

Respectfully submitted,

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